

THE LIFE HISTORY OF *BORBO IMPAR LAVINIA* (WATERHOUSE) (LEPIDOPTERA: HESPERIIDAE)

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Abstract

The immature stages of *Borbo impar lavinia* (Waterhouse) from the Northern Territory are described. *Panicum maximum* Jacq. and *Pennisetum pedicellatum* Trin. (both Poaceae) are recorded as larval food plants.

Introduction

The yellow swift *Borbo impar lavinia* (Waterhouse) is found in the Northern Territory, from Darwin east to Sixty Mile (rice project), the Adelaide River and Groote Eylandt (Common and Waterhouse 1981, Dunn and Dunn 1991). Common and Waterhouse (1981) also listed Moa Island in the Torres Strait but Lambkin and Knight (1990) suggested that this record should refer to *B. i. tetragraphus* Mabille, which is also found on Murray Island. The life history of *B. i. lavinia* is unknown in Australia.

Life History

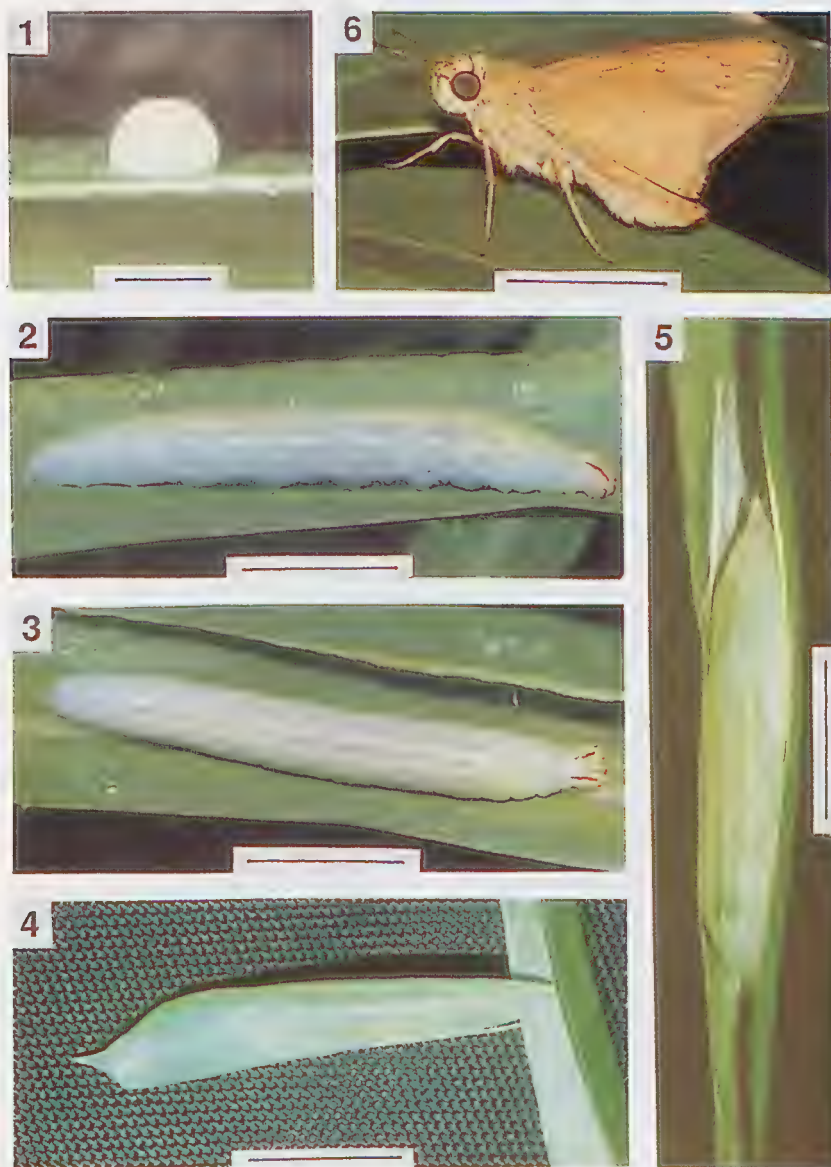
Food plants: *Panicum maximum* Jacq. and *Pennisetum pedicellatum* Trin. (Poaceae).

Egg (Fig. 1): Hemispherical, smooth and white; 1.1 mm diameter x 0.6 mm high.

First instar larva: Length 3-5 mm. Body colour pale yellowish green; head black; posterior segments flattened, slightly rounded and covered with small white hairs.

Final instar larva (Figs 2-3): Length 35-43 mm. Head beige with two distinctive tan markings surrounded by cream. Body colour cream, finely speckled all over with mint green spots. Middorsal band prominent, mint green in colour, and narrowly edged with cream. Narrow cream dorsolateral stripes also present although these are sometimes indistinct. Segment divisions are yellow, being more conspicuous around the thoracic region. The spiracles are white and the posterior segments are flattened and rounded with fine whitish hairs.

Pupa (Figs 4-5): Length 27-35 mm. Translucent green; long and slender; head with a distinct horn-like projection; darker green middorsal band sometimes evident; white subdorsal and dorsolateral lines on abdominal segments; subdorsal and dorsolateral lines sometimes present on thoracic segments; posterior end constricted to form a flattened, ventrally curved cremaster; haustellum extending to abdominal segment 7 or 8. Attached by the cremaster to a dense silken pad and supported by a silken girdle (Fig. 5).



Figs 1-6. *Borbo impar lavinia*. (1), egg; (2-3), lateral and dorsal views of mature larva; (4), lateral view of pupa; (5), dorsal view of pupa in shelter; (6), adult male. Scale bars: (1), 1 mm; (2-3), 12 mm; (4-6), 10 mm.

Discussion

Eggs were laid singly on grass blades and hatched in 5-7 days. Young larvae eat the egg shell before constructing a longitudinal tube-like shelter towards the end of the grass blade. Larvae form the shelter by rolling over one edge of the grass blade to meet the other and affixing with silk. Later instar larvae construct similar shelters further down the grass blade. Larvae rest within the shelters during the day and emerge mainly at night to feed. Younger larvae eat above and below the shelter to the midrib. Later instar larvae eat from the tip towards the base of the grass blade including the midrib and extend the shelter towards the base of the blade as the blade is consumed. Just prior to pupation larvae construct the pupal shelter (Fig. 5), which is generally located towards the end of a fresh blade of grass. To form the shelter, the larvae weaken the midrib causing the blade to fold down towards the ground. A longitudinally open tube-like shelter is formed by larvae attaching a few silken threads above and below the final resting pad and drawing the two edges of the grass blade towards each other. Larvae line the shelter with silk, orientating head upwards within the shelter and with the shelter opening facing the ground. Larvae reach maturity in approximately 21 days. Adults emerge about 16 days later.

Adult males (Fig. 6) establish territories in open sunny areas near the food plant. The females flit slowly around the food plant in shadier areas, resting frequently. Around Darwin adults fly from September to May and often occur with *Pelopidas lyelli lyelli* (Rothschild). The immature stages of *P. l. lyelli* and *Melanitis leda bankia* Fabricius have also been found on both host grasses and successfully reared to adults. Mature larvae and adults of *P. l. lyelli* can be separated from those of *B. i. lavinia* by the descriptions given in Common and Waterhouse (1981).

Acknowledgments

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References

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